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REMARKS

This application has been carefully reviewed in light of the Office Action dated May 23, 2005. Applicant has amended claims 1 and 7. Reconsideration and favorable action in this case are respectfully requested.

Applicants note with appreciation that the Examiner has allowed claims 8-11 and claims 2-6, 12-1 and 15-16 would be allowable if rewritten in independent form and if the double patenting rejections were overcome.

The Examiner has rejected claims 1 and 7 under 35 U.S.C. §102(e) as being unpatentable over U.S. Pat. No. 6,430,640 to Lim. Applicants have reviewed this reference in detail and do not believe that it discloses or makes obvious the invention as claimed.

The Examiner has rejected claim 14 under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 6,430,640 to Lim in view of U.S. Pat. No. 5,263,163 to Holt. Applicants have reviewed these references in detail and do not believe that they disclose or make obvious the invention as claimed.

The Examiner has rejected claims 1-7 and 12-16 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over U.S. Pat. No. 6,684,280 to Chauvel et al, in view of Lim. Applicants have reviewed these references in detail and do not believe that they disclose or make obvious the invention as claimed.

With regard to the double patenting rejection, Applicants submit that the Examiner is misusing the double patenting doctrine, which is intended to prevent an Applicant from extending his monopoly by claiming obvious variations of an invention. As detailed in the last Response, the claims of the '280 are directed to a totally different invention. The original version of claim 1 of the present invention stated:

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1. (Original) A method for prioritizing access to a shared resource in a digital system having a plurality of devices vying for access to the shared resource, comprising the steps of:

- initiating an access request by each of the plurality of devices;
- providing two priority values along with each access request from each device; and
- arbitrating for access to the shared device by using the higher of the two priority values from each device.

The original version of claim 7 stated:

7. (Original) A digital system comprising:
- a shared resource;
 - a plurality of devices connected to access the shared resource, wherein each device has a request output and circuitry for providing two separate variable priority values;
 - arbitration circuitry connected to receive a request signal from the request output of each device along with the two priority values from each device, wherein the arbitration circuitry is operable to schedule access to the shared resource according to the higher of the two priority values from each device.

Claim 1 of the '280 patent states:

1. A method for prioritizing access to a shared resource in a digital system having a plurality of devices vying for access to the shared resource, comprising the steps of:
- establishing a software priority state associated with a program module;
 - executing an instruction from the program module on a first of the plurality of devices to form an access request to the shared resource;
 - providing an access priority value with the access request that is responsive to the software priority state of the program module; and
 - arbitrating for access to the shared resource by using the access priority value.

Claim 17 of the '280 patent states:

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17. A method for prioritizing access to a shared resource in a digital system having a plurality of devices vying for access to the shared resource, comprising the steps of:
- establishing a respective software priority state associated with a respective program module on each of the plurality of devices;
 - executing an instruction from each of the respective program modules on the plurality of devices to form a plurality of access requests to the shared resource;
 - providing a respective access priority value with each of the plurality of access requests that is responsive to the respective software priority state of the respective program module; and
 - arbitrating for access to the shared resource by using the respective access priority values provided with the plurality of access requests.

The Examiner states that the '280 patent:

claims a method for prioritizing access to a shared resource in a digital [system] having a plurality of devices vying for access to the shared resource, comprising the steps of : initiating an access request by each of the plurality of devices; providing priority value along with each access request from each device; and arbitrating for access to the shared device by using the higher of priority value from each device. (claim 17). However, USP 6,684,280 fails to disclose the step of providing two priority values.

The Examiner is "finding" elements in the '280 claims that are comparable to elements in the present claims only by strategically leaving out key terms in the present claims and by misconstruing claim 17 of the '280 patent. With regard to claim 1, claims 1 and 17 of the '280 patent show only one element, namely "initiating an access request by each of the plurality of devices". It does not claim "providing two priority values along with each access request from each device". The Examiners analysis "shows" this element only by eliminating "two", a very key restriction, from the element. Further, neither claim 1 or 17 show the step of "arbitrating for access to the shared device by using the higher of the two priority values from each device". In this regard, in order to find

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“using the higher of two priority values”, the Examiner relies on Claim 17 of the ‘280 patent. However, to the extent that claim 17 shows “the higher of two priority values”, the priority values are from different devices. Claim 17 has no comparable element corresponding to arbitrating for access to the shared device by using the higher of the two priority values *provided with each access request*. Applicants do not believe that “using the higher of two priority values” could be construed as referring to two priority values each coming from a different device. Nonetheless, to advance prosecution of this case, Applicants have amended the claim language to make it completely unambiguous that arbitration is performed by using a higher of the two priority values *provided with each single request*.

Oddly, the Examiner states that “USP 6,684,280 fails to disclose the step of providing two priority values. If the ‘280 patent fails to disclose the step of providing two priority values, then it could not possible show the “providing” step or the “arbitrating” step of Claim 1. Similarly, it could not show the “plurality of devices [having] circuitry for providing two separate variable priority values” or the “arbitration circuitry to schedule access to the shared resource according to a higher of the two priority values” as required in claim 7.

The Examiner states that Lim discloses a method of prioritizing access to a shared resource in a digital [system], which provides two priority values, citing col. 14, line 11 and col. 15, lines 48-56. Applicants respectfully disagree.

The Lim reference has been discussed in detail in Applicants’ previous Responses. The disclosure at column 14, line 11 clearly refers to comparing *single* priority values per access request, *each from a different device*. This is abundantly clear from the immediately preceding sentence – “the arbitration unit 404 for each entity 400 wishing to access shared resource 408 provides *a* priority value 410 for comparison.” (column 14, lines 7-10). The second passage cited by the Examiner describes using a processor ID to

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break ties when the priority value is the same for two competing requests. The only embodiment described in Lim appends the processor ID to the least significant bits of the priority value such that two priorities cannot be equal. This would comprise a single priority value. Nonetheless, even if the processor ID was considered to be a separate priority value, it does not show the present invention as claimed. In each of claims 1 and 7, the *higher* of two priority values provided in a single access request is used for arbitration – this is much different than providing a second priority value that is used to break ties and provides significantly different results. Additionally, Claim 7 specifies that the two separate priority values are *variable*; there is no showing in Lim that the processor ID is variable.

In the previous Office Actions, the Examiner has admitted that Lim does not show two priority values (Office Action of December 11, 2003, page 3, line 4; Office Action of May 20, 2004, page 3, line 2). While Applicants respect the Examiner's right to change interpretation of a reference, Applicants do not believe that the Examiner is fairly interpreting the teaching of Lim or giving proper interpretation to the claims in this case. Lim simply does not provide any useful teachings that would be relevant to the claims of the present application.

With regard to the 102(e) rejection over Lim, the same arguments apply. Lim shows a single priority value; there is no indication in Lim that the processor ID is anymore than a tie-breaker and there is no teaching that the processor ID has any priority function. Second, even if the processor ID in Lim was interpreted to be a second priority value provided with a request, claims 1 and 7 specifically state that arbitration is performed using the *higher* or the two priority values provided with an access request to a shared resource – there is no such teaching in Lim, nor would it make any sense to use the processor ID associated with an access request as the primary priority value (as opposed to a tie-breaker) if the processor ID was of higher value than the actual priority value associated with the access request. Third, claim 7 specifically states that each of the two

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priority values associated with an access request are variable, and there is no indication in Lim that the processor ID is variable. Fourth, the Examiner already has found that Lim does not show two priority values with an access request on multiple occasions.

With regard to the 103(a) rejection of claim 14, Applicants believe that since this claim is dependent upon claim 1, it is novel over the Lim and Holt references. Applicants do not believe that Holt shows an address space priority value. It is clear from the passage cited by the Examiner that the address bits are separate from the priority bits, and there is not priority value that is responsive to the address specified by the request.

The Commissioner is hereby authorized to charge any fees or credit any overpayment, including extension fees, to Deposit Account No. 20-0668 of Texas Instruments Incorporated.

Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Alan W. Lintel, Applicants' Attorney at (972) 664-9595 so that such issues may be resolved as expeditiously as possible.

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For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,



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